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# Avian influenza: Ferret H7N9 flu model questioned

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We question the relevance to human pandemics of studies designed to investigate transmissibility of the avian influenza A(H7N9) virus between ferrets (M. Richard *et al. Nature* <http://doi.org/njc> 2013; see also R. A. M. Fouchier *et al. Nature* **500**, 150–151; 2013).

Earlier studies have demonstrated ferret transmission of wild-type A(H7N9) virus (H. Zhu *et al. Science* **341**, 183–186; 2013; and Q. Zhang *et al. Science* **341**, 410–414; 2013). However, the results are in striking contrast with the evidence that human-to-human transmission is extremely infrequent.

The discrepancy between ferret and human transmission in some strains undermines the purported value of 'gain-of-function' (GOF) experiments, which track genetically modified variants of A(H7N9). Yet these studies and a proposal to do GOF experiments (R. A. M. Fouchier *et al. Nature* **500**, 150–151; 2013) have been published without seriously questioning the relevance of the ferret model.

A naturally occurring virus could differ subtly from any produced experimentally. In that case, human transmissibility, antigenicity and drug resistance would need to be assessed by studies of the actual strain of virus, and data from GOF experiments could in fact be misleading.

The irony of GOF studies is that these results are likely to be useful for public health only if the pandemic arises from a lab accident, as many fear could happen if this work proliferates.